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PATENT & TRADEMARK OFFICE
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: R. Adrian Bishop, Thomas E. Gorsuch and John V. Page

Application No.: 09/384,072

Group: 2684

Filed: August 26, 1999

Examiner: Chow, Charles Chiang

Confirmation No.: 7349

For: TWO TIER HI-SPEED WIRELESS COMMUNICATION LINK

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail in an envelope addressed to Assistant Commissioner for Patents, P.O. Box 2327, Arlington, VA 22202

on 12/31/02

Date

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Jennifer Warner
Jennifer Warner
Typed or printed name of person signing certificate

TRANSMITTAL OF FORMAL DRAWINGS

Assistant Commissioner for Patents
P.O. Box 2327
Arlington, VA 22202

Sir:

Transmitted herewith are formal drawings consisting of 5 sheets, figures 1-5, for filing in the subject patent application.

Acceptance of the formal drawings is respectfully requested.

Respectfully submitted,

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Date: December 30, 2002

#9/Formal Drawings
1/15/03
a.d.

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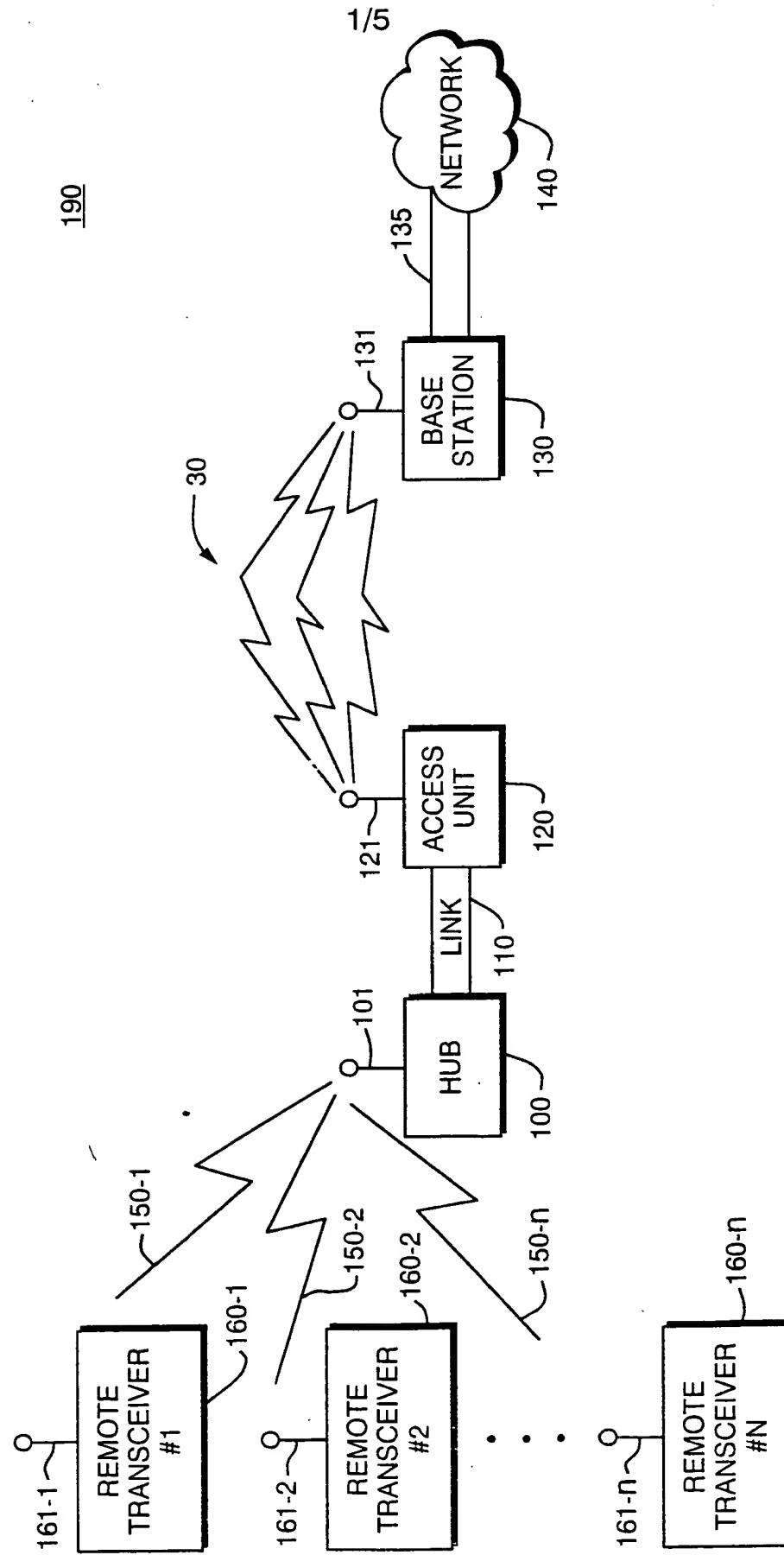
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O.I.P.
APPROVED BY O.S. FIG.
CLASS SUBCLASS
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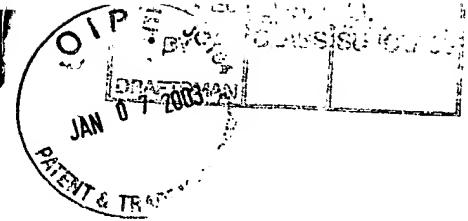
Appl. No.: 09/384,072
Title: "Two Tier Hi-Speed Wireless .
Inventors: R. Adrian Bishop, et al.

Examiner:
C.Chr
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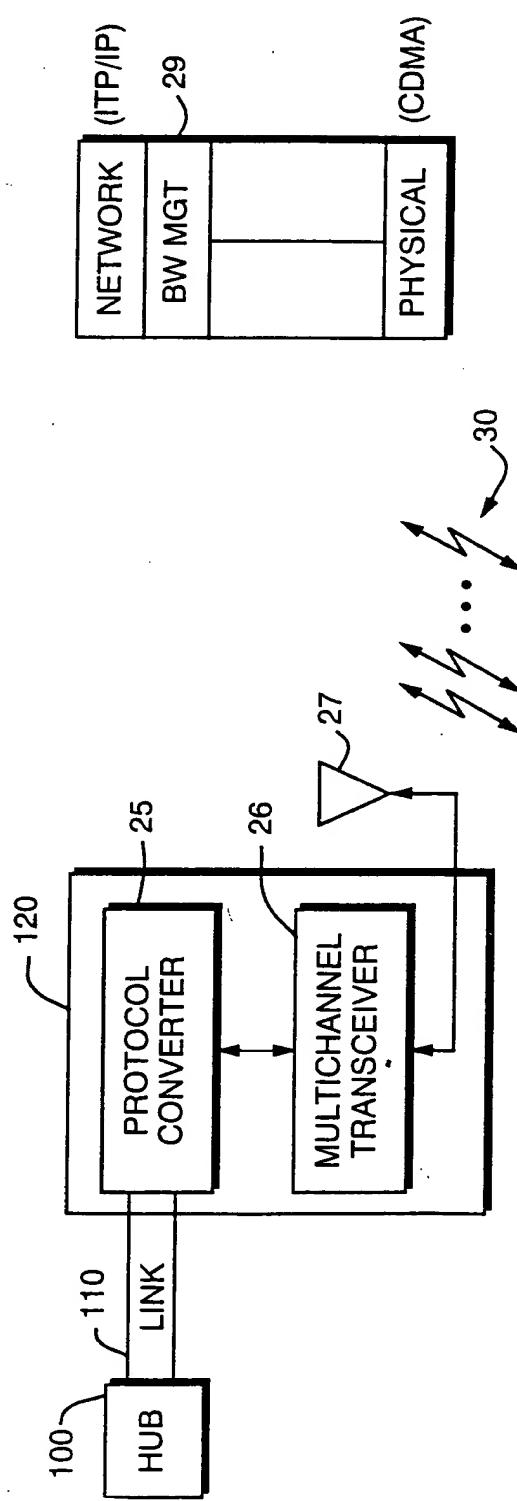
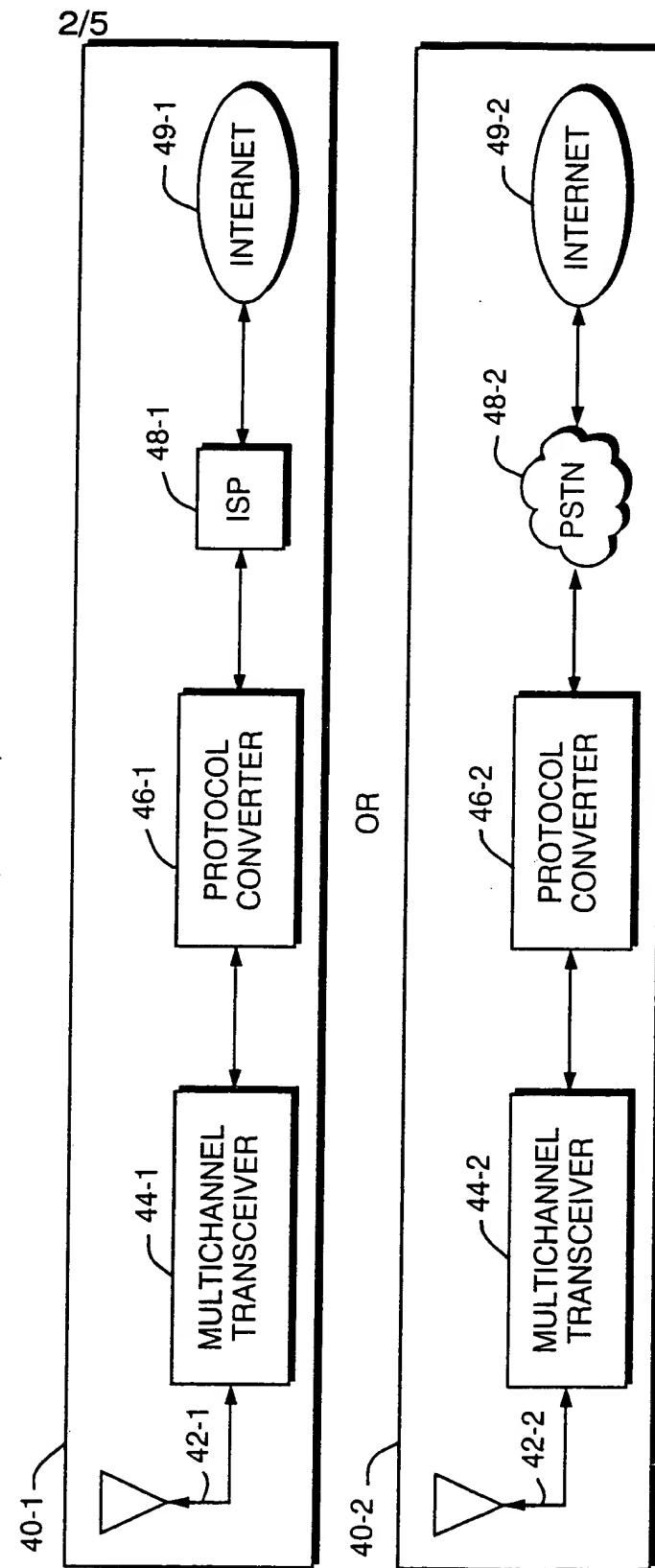


FIG. 2



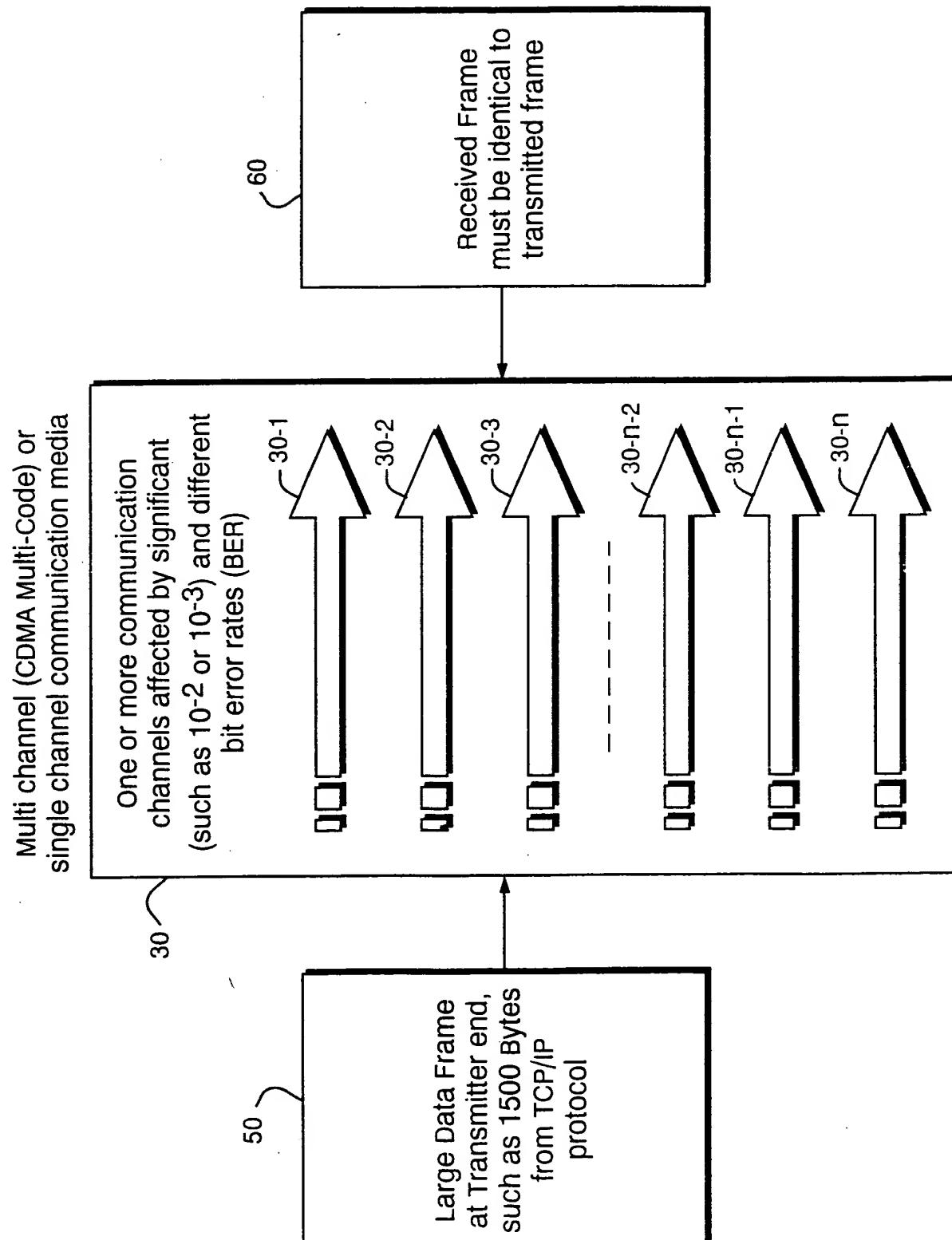
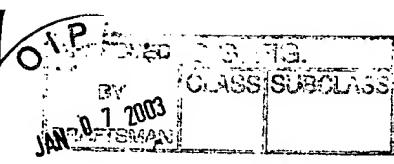
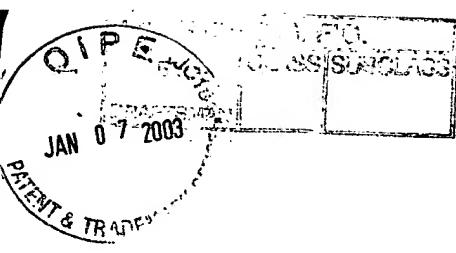
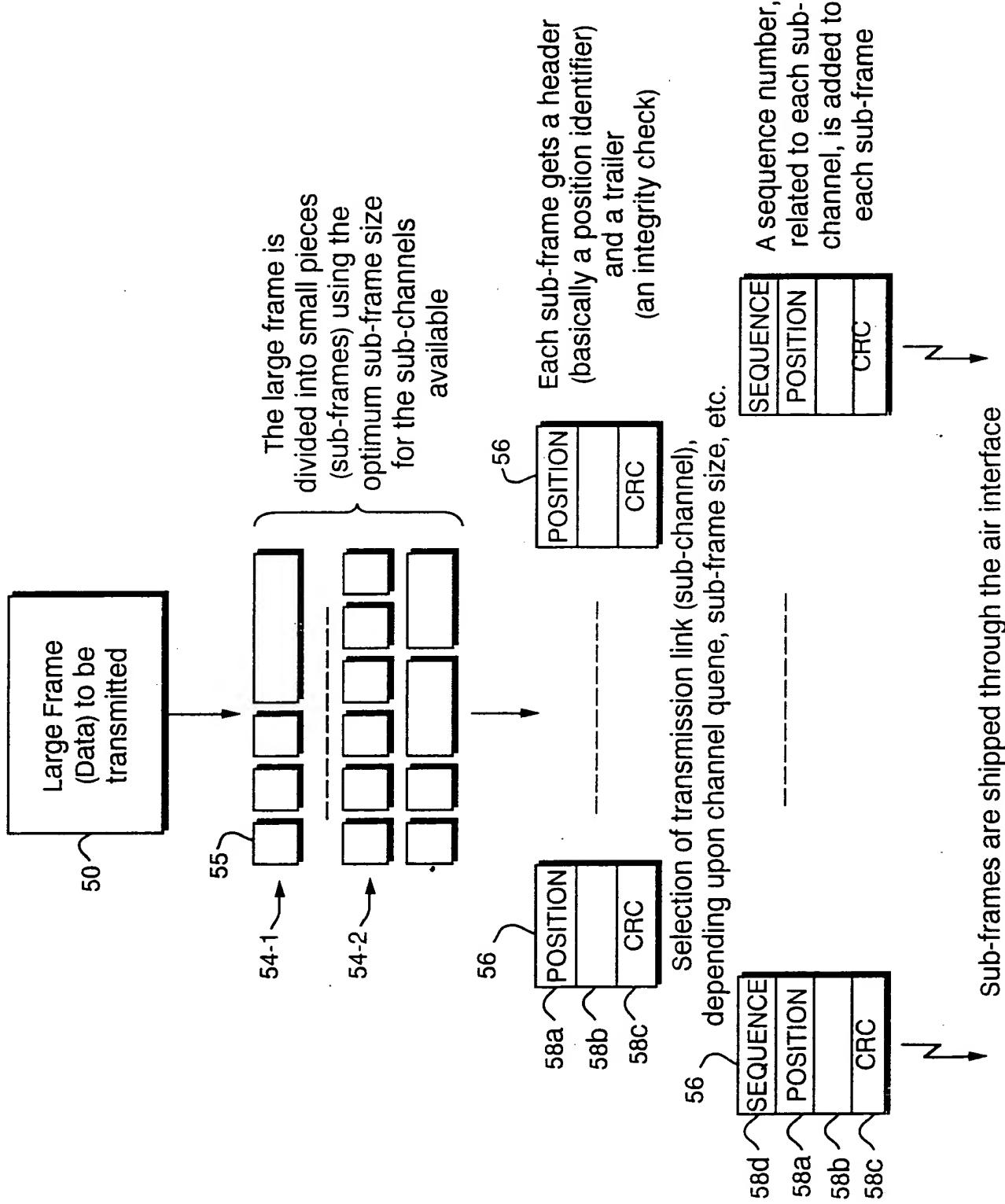


FIG. 3

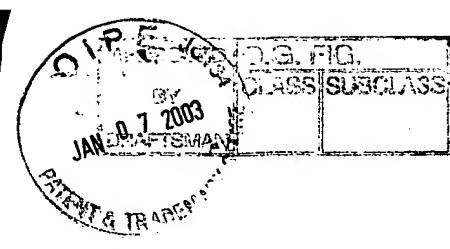


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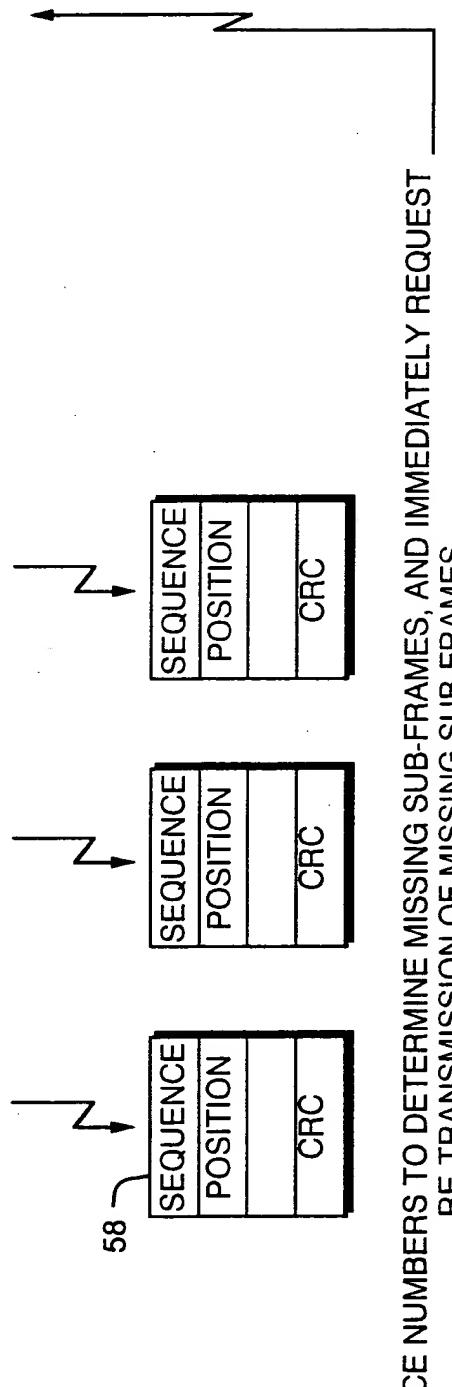


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USE SEQUENCE NUMBERS TO DETERMINE MISSING SUB-FRAMES, AND IMMEDIATELY REQUEST RE-TRANSMISSION OF MISSING SUB-FRAMES

60 ↗

USE POSITION NUMBER (OFFSET) TO RECONSTRUCT THE LARGE ORIGINAL FRAME. ONLY FRAMES WITH GOOD CRC ARE USED FOR THIS PURPOSE

CHECK IF ANY PIECE OF THE LARGE FRAME IS STILL MISSING WHEN THE END-OF-FRAME COMMAND IS RECEIVED. IF ANY IS STILL MISSING, REQUEST RETRANSMISSION OF THE SUB-FRAME AT POSITION, SPECIFYING LENGTH.

BOTH SENDER AND RECEIVER KNOW THE RATIO OF SUB-FRAMES RECEIVED WITH ERRORS AND RECEIVED WITHOUT ERRORS. THEY ALSO KNOW THE AVERAGE SUB-FRAME LENGTH FOR EACH SUB-CHANNEL. THEN THEY CAN UPDATE THE OPTIMUM SUB-FRAME SIZE FOR EACH SUB-CHANNEL.

FIG. 5